

round-tower was a noble idea, it affording lodging for the architect and masons; here he could at a glance have a bird's-eye view of his little church as it progressed towards completion; here he kept his people under his eye in a circle, propounded his plans, and, "though last not least," was safe from any nightly attack, from the elevated position of the doorway. No doubt it afterwards formed a useful appendage to the church as a depository for books and other valuables of the church, as well as affording a certain landmark (by its lofty proportions) in a country nearly covered with wood to the weary pilgrim and traveller. It is easy to make objections, as by asking "Where did the architect and workmen reside, or how guard themselves from attacks from hostile parties, while the tower was in progress of building?" To such objections I will merely say, the zeal shown by the people in every great undertaking, and that for a religious purpose being best calculated to excite the feelings, might have the effect of collecting a body of persons not only able to assist in the work, but by their numbers to overawe any hostile parties daring to approach. That such laudable zeal at last may have gradually died away it is but reasonable to conclude, but then one great object was attained, the building of the tower.

Hence I conclude, the tower and the adjoining church are of one and the same age and period.

Gorey, June 7th, 1845.

J. K.

Correspondence.

FIRE-PROOF STAIRCASES.

SIR.—The late fatal fires in Dover and Fenchurch-streets fully prove the absolute necessity of especially constructing staircases fireproof, by which the inmates could make a safe retreat from a dreadful death. Although I am neither an architect nor builder, I really cannot see any great difficulty in following out this efficacious plan, it only requires any man of note in that profession to adopt it, and then all houses would quickly be rendered safe. Why could not the whole well of the staircase, its sides, ceiling, and flooring, be made of thin iron plates let into frames of the same metal; then again the stairs, balusters, hand-rails could be also constructed of that material, and here there would be great scope for ornamental castings. There is no doubt that the staircase forms the chief clue to a house when on fire, and as wood feeds the flame, so does the staircase the fire, allowing it to make its way into rooms leading on to the staircase, therefore I would suggest that all such doors should be of iron; they need not be heavy, the object being to keep the fire on one side only, and to prevent its spreading. I hope that some of your professional readers will take up this matter with spirit, for we must remember that the staircase is always the place first sought for when these accidents occur, and moreover we ought ever to bear in mind, that fires may and do take place in houses in which every possible care is taken to avoid its presence. Gas, sparks, flues, often being the primary causes of destruction of life and property by fire.

I am, Sir, &c.

June 23rd, 1845.

P. A. T. H.

COST OF LOCOMOTIVE ENGINE.

SIR.—I should be obliged if any of your correspondents could inform me, through the medium of your columns, the cost of a three or four-horse power locomotive engine. It is proposed to be used for drawing loaded carriages down, and empty ones up, a line 14 miles in length. I presume a tender would not be necessary, as sufficient fuel might be kept in depot at each end of the road. Also, what quantity of water (rather a scarce article) would be necessary for the supply of the boiler for that distance.

I am, Sir, &c.

21st June, 1845.

J. F.

FIRE-PROOF COMPOSITION.

SIR.—Is there not a patent for some material which if used instead of plaster will prevent houses from burning?

I am, Sir, &c.

A. B.

PASSAGE OF WATER THROUGH PIPES.

SIR.—I wish to know the quantity of water that would be discharged through a pipe of one-inch bore per minute, the head of water being kept level with the top of the pipe, with the least force possible; and also what would be the increased discharge per minute, the head being raised from one to twelve inches.

I am, Sir, &c.

F. E. H.

Miscellaneous.

WASTE OF STRAW IN THATCHING.—It would be impossible, after having entered so generally into all the various details connected with homesteads, to omit one most important consideration respecting them, I allude to the habit, too often in use, of thatching buildings. This cannot be too generally reprehended. The arguments against it are endless; it entails considerable expense, robs the land, creates danger from fire, is a harbour for vermin. Either of these objections is a sufficient reason for stopping this monstrous practice. If landlords reflect upon this, they will see that they ensure an injury to their land by compelling their tenants to repair with straw; whereas tiles or slates are preferable in every way. It is only the first outlay which is to be considered; by adopting which, robbery to the land and unceasing expense to the tenant are prevented. In the buildings lately pulled down at Peckham, there must have been nearly an acre of thatch, and they harboured vermin enough to stock a whole county. There are instances in the Weald of Kent, where nearly the whole straw of the tenant is used for his house and buildings, a fact lamentable in every view of the question. If straw is to be taken from the land, let it be sold, and the money laid out in artificial manure; but it is most desirable that it may soon cease to be used for such improper purposes.—*Lord Torrington.*

THE USE OF IRON.—A correspondent of the *Mining Journal* in writing on the general utility of Iron says, "The immense destruction of property occasioned by fire, in most of our large manufacturing towns and cities, would be rendered less disastrous if warehouses and other depositories for merchandise, were constructed of iron, formed in different compartments and made secure. How lamentable it is to hear of the almost daily occurrence of some conflagration by which property to an immense amount is destroyed in this kingdom, when all public buildings would be more safe, as well as more durable, if constructed of iron, whilst the architectural beauty need not be diminished: the pointed spire, however ornamental, on all newly-erected or repaired churches, would be placed there with iron cheaper than any other material. The fame of our great statesmen and England's unconquerable heroes, might be perpetuated to the latest posterity in the erection of monuments constructed with iron, indeed the whole transactions of the British nation, in all her great mercantile pursuits, might be recorded on iron. I myself have written upon paper manufactured from iron, and seen a book, with both leaves and binding of the same material."

THE RELATIVE FREQUENCY OF PHTHISIS IN CERTAIN TRADES AND PROFESSIONS.—Among those persons engaged in the different professions at Geneva, 114 fell victims to consumption out of 1,000. The average varies; in some professions it is higher than others; in the varnish painters it is as high as 37 in the 100, in the gardeners as low as 4. Among polishers, plasterers, sculptors, stone-cutters, watch-hand-makers, it reaches to 116 in the 1,000; and among the tailors, engravers, printers, clerks, &c. even to 141 in the 1,000. The average falls in carpenters, blacksmiths, slaters, and agriculturists, to 89 in the 1,000; in butchers, tanners, and candle-makers, to 73 in the 1,000; in weavers, dyers, bleachers, and watermen, to 53 in the 1,000; and in persons of easy circumstances it falls as low as 50 in 1,000. M. Lombard found that the age of the stone-cutter averaged 34 years, the sculptor 36, the miller 42, the painter 44, the joiner 49, the butcher 53, the lawyer 51, the surgeon 54, the mason 55, the gardener 60, the merchant 62, the Protestant clergyman 63, the magistrate 60.—*Hastings on Consumption.*

PRINTERS' ALMSHOUSES.—A meeting was held last Monday evening, in the theatre of the Mechanics' Institution, of the friends and subscribers towards the building of almshouses for decayed printers. The chair was taken by Luke James Hansard, Esq., who not only ably advocated the cause of the association, but was announced as a subscriber of the liberal sum of 50*l.* The report, which was read by the secretary, proved in the most satisfactory manner that the object which the committee have so assiduously prosecuted for the last four years will ere long be fully realised, and another of those benevolent institutions be erected which reflect so much honor upon the working-men of the present day. The amount of subscriptions, &c., received since the last report was announced to be 355*l.* 2*s.* This added to the sum previously in hand makes a total of nearly 1,500*l.*

SINGULAR DISCOVERY OF LEAD ORE IN AMERICA.—As Mr. Booth, who is an experienced miner, was sinking a shaft near Dubuque, through successive layers of hard sandstone, when about 25 feet from the surface he suddenly found himself in an immense cavern, which has since been ascertained to be 1000 feet in length, from 15 to 40 feet wide, and the height varying from 12 to 40 feet. In one place the roof almost reaches the floor, and divides the whole into two immense gloomy chambers, where, probably, Nature has been at work for an unimaginable series of ages. The strata is formed of stratified silicious limestone, with crystallisations and stalagmites hanging from the roof and sides. The principal portion of the lead ore contained in this cavern is found beneath the floor; small shafts have been sunk at intervals along its whole length, and the ore is found in detached masses, some probably weighing 1000 lbs., embedded in red silica, the total value of the deposit is said to be incalculable.—*Mining Journal.*

NEW CHURCHES.—At a meeting held last week of the Society for promoting the enlargement, building, and repairing of Churches, it was determined to erect seven new churches, namely, in the districts of Portland town; in the district parish of Christ church, Marylebone; at Waterhead in the parish of Oldham, Lancashire; at Middleton, in the parish of Rothwell, near Leeds; at Clydach, in the parish of Llangyflach, near Swansea; at Falls-worth, in the parish of Manchester; at Wick, in the parish of Wick, and Abson, near Bristol, and in the district around Peter-street in the parish of St. John, Westminster. The churches which are to be rebuilt, enlarged, or otherwise altered, are the parish churches of East Ardsley, near Wakefield; Nettlebed, near Henley-on-Thames; Beesford, near Driffield; Sandford, near Woodstock; Stert, near Devizes; and the Chapel of North End, Fulham.

FLOORING FOR PIGSTIES.—At a late meeting of the Agricultural Association, in answer to an inquiry as to the best mode of laying down an asphaltic or bituminous flooring in pigsties, Mr. Parkins informed the Council that he had found the following composition very useful for that purpose, namely, lime or pounded chalk mixed with so much coal-tar from gas-works as will leave the mixture in a state not too soft for ramming, adding a sufficient quantity of sand or fine gravel to bind the whole. Mr. Parkins stated that these materials not only formed a hard basis for pigsties, farm-yards, &c., but made good walks, on which weeds would not grow, and answered the purposes generally for which asphalt was commonly employed.

GERMAN HOSPITAL IN LONDON.—An attempt is being made to establish a German hospital in London, and from the patronage and support it has already received there appears to be no doubt of its success. A public meeting has been held, at which the Duke of Cambridge presided, supported by several of the foreign ministers, &c. The sum of 5,000*l.* will be required for the establishment of the institution, and the needful annual expenditure will amount to 1,200*l.* or 1,500*l.* Already upwards of 3,000*l.* have been subscribed.

PINE LOGS.—Dr. Bowring last week moved in the House of Commons that the duty on pine logs not exceeding 10 feet long and 11 inches square be reduced to 12*s.* 6*d.* a load. Sir G. Clerk opposed the motion, and it was withdrawn.